MS2100

VEHICLE SECURITY SYSTEM

Installation Manual

This vehicle security system requires interfacing with several of the vehicle's factory wiring harnesses. Be sure to verify all connections with a digital multi-meter prior to making connections. Failure to do this can result in serious damage to the vehicles electrical system or deploying an air bag(s). It is also highly recommended that all connections are soldered, rather than the use of T-Taps or Scotch Locks.

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1. Before You Begin

- Prior to beginning the installation of the Ungo MS2100, be sure that you have completely read and understand this installation manual.
- Verify all the vehicle's functions work properly prior to installation (i.e.: power windows, power door locks, climate controls, radio, etc.)
- Check with the vehicle's owner on the location of the status LED and valet switch.
- Protect the vehicle by using fender and seat covers.
- Double-check the location before drilling. Make sure that there are no wire looms, hoses, or other obstructions. Failure to verify can result in serious damage to the vehicle.
- Roll down a window(s) before beginning installation, to prevent getting locked out of the vehicle.
- Set the Polarity Jumper inside the main unit for the Parking Lights.

Warning: Probing wires with a Test Light can result in serious damage to the vehicle's electrical system and/or deploy air bag system.

2. After The Installation is Complete

- Verify all the vehicle's functions work properly after the installation (i.e.: power windows, power door locks, climate controls, etc.).
- Test all functions of the vehicle security system and make any changes to the system parameters if necessary.

3. System Contents

- Main Unit 1
- Remote Transmitter 2
- 12-Pin Main Harness 1
- 2-Pin Status LED Harness 1
- 2-Pin Valet Switch Harness 1
- 3-Pin Door Lock Harness 1
- 4-Pin Shock Sensor Harness and Shock Sensor 1
- 14 Gauge wire with insulated female .250 connectors . .1
- Window Decals 1
- Owner's Manual 1
- Installation Manual 1

4. Installation Tips and Suggestions

- Use a digital multi-meter to test all wires; DO NOT use a Test Light.
- Check door and trunk pin switches prior to beginning installation. Replace faulty pin switches with either a factory or a high quality replacement pin switch.
- Good power and ground connections are essential for proper operation of the security system. Ground the alarm as close to the main unit as possible.
- Route all wires from the engine compartment to the interior of the vehicle through a grommet using electrical tape and/or split tubing for protection and camouflaging.
- When adding additional accessories to the security system, such as window modules, electronic trunk release, etc., be sure to fuse each accessory independently from the main power source for the security system.
- If extending any wires of the security system is necessary, be sure to use the same or thicker gauge of wire.
- Never bypass the supplied fuses on the wiring harnesses, as those are designed to protect the security system and vehicle.
- For maximum security, disguise all the wires under the hood and under the dash with black tape and/or split tubing.

5. Mounting Components

5.1 Siren

1. Mount the siren in suitable location under the hood that will not interfere with the functionality of the vehicle and away from source of extreme heat (i.e.: exhaust manifold).
2. Make sure the siren cannot be easily accessed from underneath the vehicle or through the grill.
3. Face the siren facing downwards, so water does not accumulate inside the siren housing.
4. It is recommended to ground the siren at the same location of the alarm main unit, not at the siren bracket.
5. Always run wires from under the hood to the cabin area of the vehicle through the center of a grommet. Running wires along bare metal can cause chaffing on the wire, leading up to a possible short.
6. Camouflage the siren wires with black tape and/or split tubing.

5.2 Main Unit

1. Mount the main unit high up within the dash, where it requires removing under dash panels to access the main unit.
2. Make sure the main unit is away from sources of heat, such as the heater core.
3. Verify that none of the wiring for the main unit will get tangled up in the steering column and/or pedals.
4. Be sure to wire tie the main unit into place to prevent the main unit from being easily removed or pulled down.
5. Before mounting the main unit, make sure to test all functions of the alarm and parameter programming has been completed.

5.3 Dual Stage Shock Sensor

1. Mount the shock sensor in the interior of the vehicle, not in the engine compartment. The shock sensor can be mounted with wire ties or screwed in. Do not double side tape the shock sensor in place, as the tape will eventually lose its adhesion.
2. Make sure the shock sensor is away from sources of heat, such as the heater core.
3. Verify that none of the wiring for the shock sensor will get tangled up in the steering column and/or pedals.

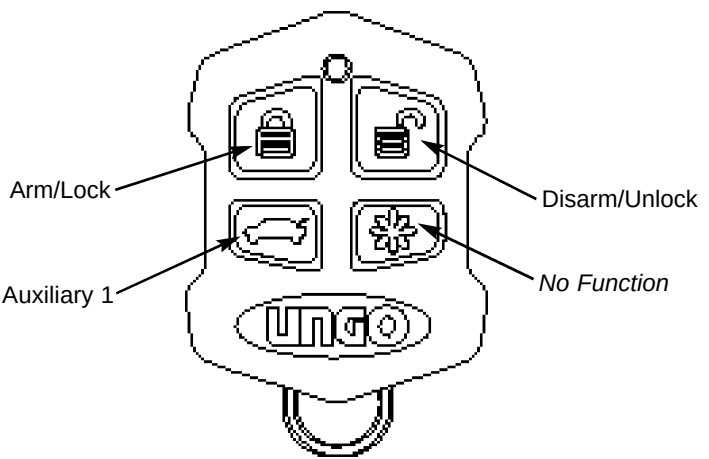
5.4 Valet/Override Switch

Prior to drilling the hole for the valet switch, make sure the switch is well hidden and can't be easily hit. Also, verify there is adequate space behind the valet switch to accommodate for the depth of the switch.

5.5 Status LED

Mount the status LED so that it is visible from both sides of the vehicle, if possible. Make sure there is adequate space behind the LED to accommodate for the depth of the LED.

6. Remote Transmitter Layout



7. Wiring Information

7.1 Main 12-Pin Harness

RED: +12V Battery input.

Connect to the vehicle's positive battery terminal and add a fuse within 12 inches.

GREEN: (-) Door trigger input.

Connect to the wire that shows ground when the door is open.*****

BLACK: (-) Ground input.

Connect this wire to bare metal, using a lock or star washer to prevent the screw from coming loose. If possible, use a factory bolt, rather then a screw.

VIOLET: (+) Door trigger input.

Connect to the wire that shows +12V when the door is open.*

YELLOW: +12V ignition input.

Connect to the main ignition wire at the ignition switch. This wire must show **+**12V when the ignition is ON and while the vehicle is cranking.

BLUE: (-) Trunk trigger input.

Connect to the wire that shows ground when the trunk/rear hatch is open.

BROWN: (+) Siren output 3A.

Connect to the siren's red wire. Connect the black wire of the siren to (-) chassis ground. (It is recommended to ground the siren at the same point as the main unit.)

BROWN/WHITE: (-) Horn Honk / Passenger Unlock Output 500mA. (Selectable Output)

Horn Honk Output: Connect to a relay to pulse the horn when the security system is triggered. (See Horn Honk Relay Diagrams for assistance.)

Passenger Unlock Output: Connect to a relay to unlock the passenger doors when the system is configured for Driver's Priority Unlocking. (See Door Lock Diagrams for assistance.)

BLACK/WHITE: (-) Dome light supervision output 500mA.

Connect to a relay for optional dome light supervision upon disarming the security system. (See Dome Light Supervision diagram for assistance.)

ORANGE: (-) Armed output 500mA.

This wire provides a ground output when the unit is armed. This wire can be used to activate an optional circuit interrupt or other device (i.e.: window module, etc).

YELLOW/WHITE: (-) Auxiliary 1 output 500mA.

Connect to a relay for an optional feature such as a trunk release solenoid, window module, etc.

WHITE: (+/-) Parking light output (10A relay).

The output polarity of this circuit can be selected for either (+) positive or (-) negative output via the internal jumper. Make sure to verify the polarity of the parking light circuit before setting the jumper.

* Diode isolate the door trigger wires for vehicles with independent door trigger wires.

7.2 3-Pin Door Lock Harness:

Green: (**-**) Lock
Red: Not Used
Blue: (**-**) Unlock
(See Door Lock Diagrams for assistance.)

8. Starter Disable Interface

1. Using a digital multi-meter, determine the wire from the ignition harness that shows +12V only during crank. Once the wire has been determined, cut the wire in half and try cranking the vehicle again. The vehicle should be unable to start. Do not cut the wire to close to the connector or ignition switch, as this will make it difficult to make the wire connections.
2. Plug the BROWN starter disable wires (with the two female connectors) onto the males connectors on the alarm main unit. Route the wires from the alarm main unit to the cut starter wires in the vehicle. Be sure these wires will not interfere with the operation of the vehicle, including movement of the steering wheel or pedals. Connect the BROWN wires to each side of the cut starter wire.
3. To verify the connections were made properly, try starting the vehicle. The vehicle should be able to start up. If not, double check the connection at the alarm main unit and the vehicle's starter wires.

9. Plug-in Connectors

4-PIN WHITE CONNECTOR: Plug-in connector port for dual stage shock sensor.
3-PIN WHIE CONNECTOR: Plug-in connector port for Door Lock harness.
2-PIN BLUE CONNECTOR: Plug-in connector port for Valet/Override button.
2-PIN RED CONNECTOR: Plug-in connector port for LED indicator.

10. Programming Remote Transmitters

Prior to programming new remote transmitters to the security system, make sure to have the desired transmitters ready.

To Enter Remote Transmitter Programming:

1. Turn the ignition ON, OFF, ON, OFF, and leave ON.
2. Press and hold the Valet/Override switch for 5 seconds.
   The siren will chirp once.
3. Press the Lock button on the transmitter.
   The siren will chirp once.
4. Press the Lock button on the transmitter again.
   The siren will chirp twice.
5. Repeat steps 3 and 4 for each additional transmitter.
6. Turn OFF the ignition when transmitter programming is complete.
   The siren will chirp 3 times.

11. Arming Mode Selection

1. Turn the ignition On.
2. Press * button on the transmitter until desired Arming Mode is selected:
   One Chirp: Passive arming with chirp confirmation.
   Two Chirps: Active arming (default setting).
   Three Chirps: Passive arming without chirp confirmation.
3. Turn Off the ignition when the Arming Mode selection is complete.

12. System Programmable Parameters

Feature	Button 1 (default)	Button 2
1. Ignition Controlled Door Locking	On	Off
2. Ignition Controlled Door Unlocking	On	Off
3. Door Unlock Pulse	Single	Double
4. Door Lock/Unlock Pulse Width	1 Second	3 Seconds
5. Passive Locking	Off	On
6. Door Entry Delay w/ Passive Arming	Off	On
7. Ignore Dome Light Delay	Off	On
8. Auto Rearm	Off	On
9. Horn Honk / Alarming Output	Pulsing	Continuous
10. Trunk Disarm Feature	Off	On
11. Siren / Horn Chirps	Siren	Horn
12. Horn Output / Passenger Unlock	Horn Output	Passenger Unlock
13. Arming Chirps	Normal	Silent

12.1 Parameter Descriptions

1. **Ignition Controlled Door Locking:** Selects whether or not the doors will lock when the ignition is turned On. Ignition Controlled Door Locks will automatically lock the doors 10 seconds after the ignition is turned On. To prevent the keys from being locked inside the vehicle; the security system will not lock the doors if any of the doors is open when the ignition is turned On.
2. **Ignition Controlled Door Unlocking:** Selects whether or not the security system the doors will unlock when the ignition is turned Off. Ignition Controlled Door Unlocking can be configured to unlock all the doors or driver's door only.
3. **Door Unlock Pulse:** Selects between single or double door unlock pulse.
4. **Door Lock Pulse Width:** Selects between a 1-second or 3-second door lock pulse.
5. **Passive Locking:** Selects whether or not the door locks will automatically lock with Auto Rearming and Passive Arming.
6. **Door Entry Delay with Passive Arming:** Selects whether or not the door trigger input will be delayed for 15 seconds, allowing access to the Override switch. The door trigger is delayed only when the system arms passively.

7. **Ignore Dome Light Delay:** Selects whether or not the security system will ignore the door trigger for 20 seconds upon arming. For vehicles with timed dome light delays, the system will not detect a faulty door trigger upon arming.
8. **Auto Rearming:** Selects whether or not the security system will rearm if no activity is detected after Remote Disarming. (If Passive Door Locking feature was selected during installation, the system will also relock the doors.) Automatic Rearming only takes place if the system was Armed (actively or passively) for at least 10 seconds and then remotely disarmed.
9. **Horn Honk / Alarming Output:** Selects whether the Brown/White wire will pulse or be continuous when the alarm is sounding. In continuous mode, it can be used to trigger an interior siren (a pain generator). (Parameter 12 must be set at default mode: Horn Output)
10. **Trunk Disarm Feature:** This feature will automatically disarm the security system when Auxiliary 1 is activated.
11. **Siren or Horn Chirps:** Selects between siren chirps or horn chirps.
12. **Horn Output / Passenger Unlock:** Selects whether the Brown/White wire is going to be used to pulse the horn or Passenger Unlock operation.
13. **Arming Chirps:** Selects whether or not the security system will chirp when arm and disarmed.

12.2 Entering Parameter Programming

1. Turn the ignition ON.
2. Within 5 seconds, press the Valet/Override button 5 times.

   The siren will chirp, indicating that User Programming has been entered.
3. Press the Valet/Override button the number of times equal to the Parameter to be changed.

   The siren will chirp each time the Valet/Override is pressed.
4. Within 5 seconds, press the transmitter button corresponding to the desired operating mode that Parameter.

   The siren will chirp corresponding to the button depressed.
5. When finished, turn the ignition OFF to save changes.

12.3 Default Reset for Parameter Programming

1. Turn the ignition ON.
2. Within 5 seconds, press the Valet/Override button 5 times.

The siren will chirp, indicating that Programming has been entered.

3. Press transmitter button 3.

   The siren will chirp 6 times indicating the reset signal has been received, and Parameters have been reset to factory default.

13. System Test and Shock Sensor Adjustment

13.1 System Test

1. Verify the Programmable Parameters are set.
2. Verify all wire connections are correct and secure.
3. Make sure none of the wires for the security system will interfere with safe operation of the vehicle.
4. Test all functions of the vehicle, i.e. power door locks, power windows, lights, etc.
5. Arm the security system; checking the siren chirps, parking lights, LED, and door locks.
6. Disarm the security system; checking the siren chirps, parking lights, LED, door locks, and dome light supervision.
7. Test all the entry points of the vehicle, doors, hood, and trunk/hatch. (Be sure to test all doors.)

13.2 Dual Stage Shock Sensor Test

1. Turn the ignition On.
2. Within 4 seconds, press Button 1 (Lock button).
3. Test the sensitivity of the sensor by hitting various locations on the vehicle. (Do hit the windshield or any other window. Be careful not to dent or damage any parts of the vehicle during shock sensor testing.)

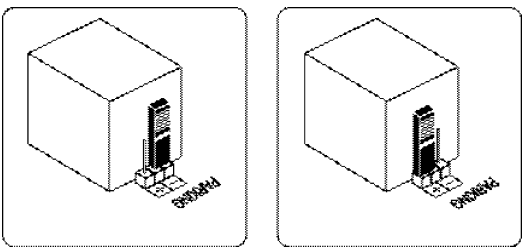
   The siren will chirp when a trigger impact is detected.
4. To make shock sensor adjustments:

   Turn the adjustment screw on the shock sensor clockwise to increase the sensitivity.

   Turn the adjustment screw on the shock sensor counter clockwise to decrease the sensitivity.
5. Turn the ignition Off when the desired sensitivity level is reached.

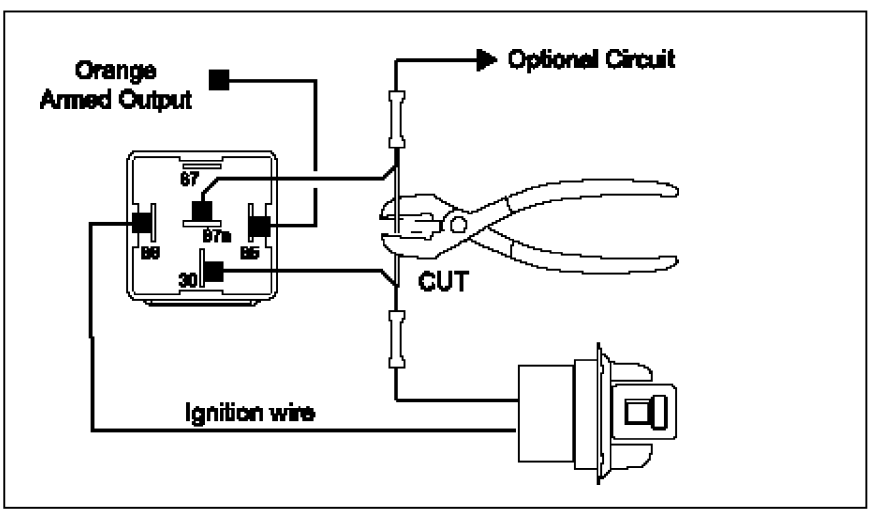
14. Parking Light Jumper Settings

The Parking Light Polarity Jumper selects the polarity (+/-) for the output of the on-board Parking Light relay.

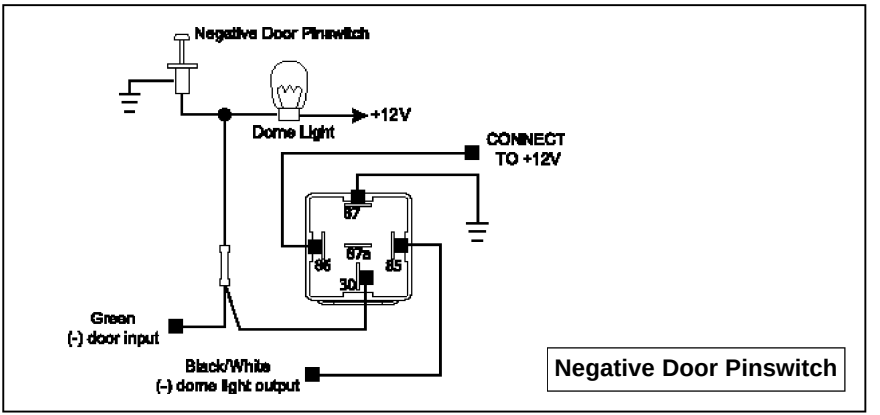


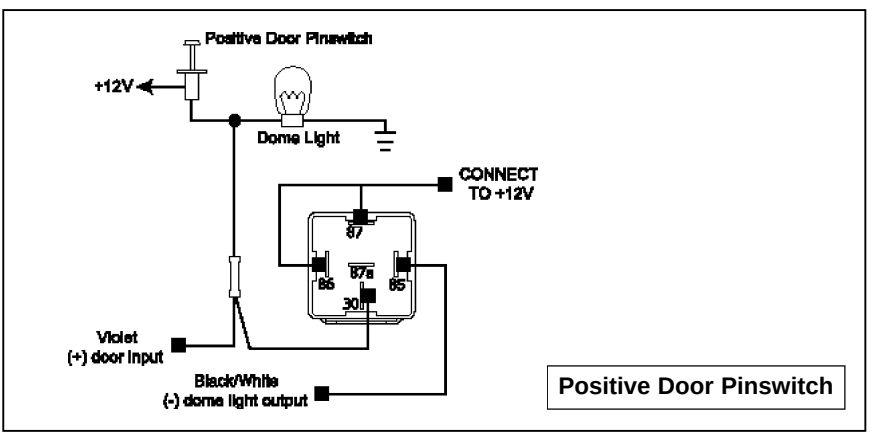
Negative Positive

15. Optional Circuit Interrupt

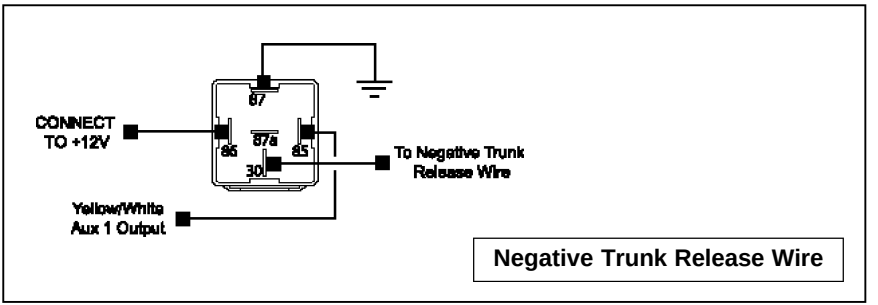


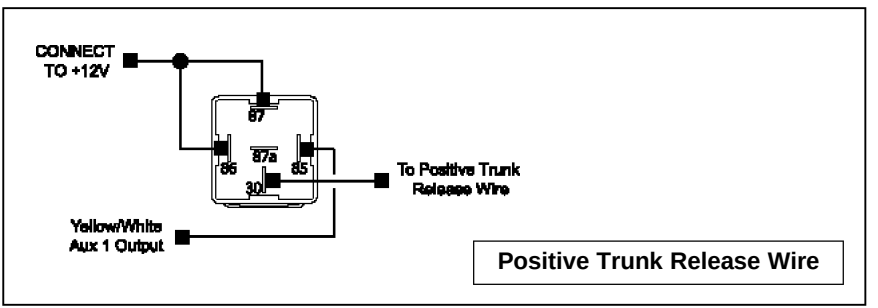
16. Dome Light Supervision Relay Diagrams



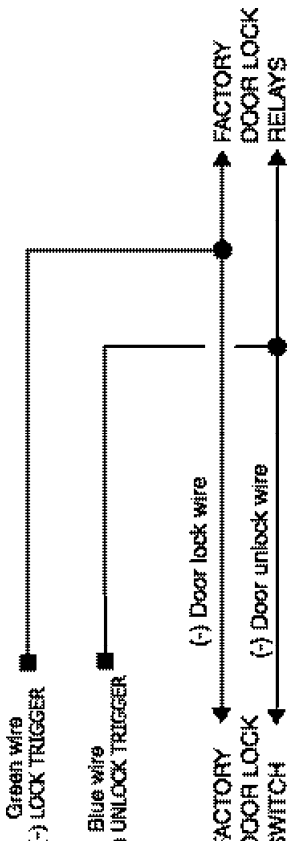


17. Trunk/Hatch Release Diagrams

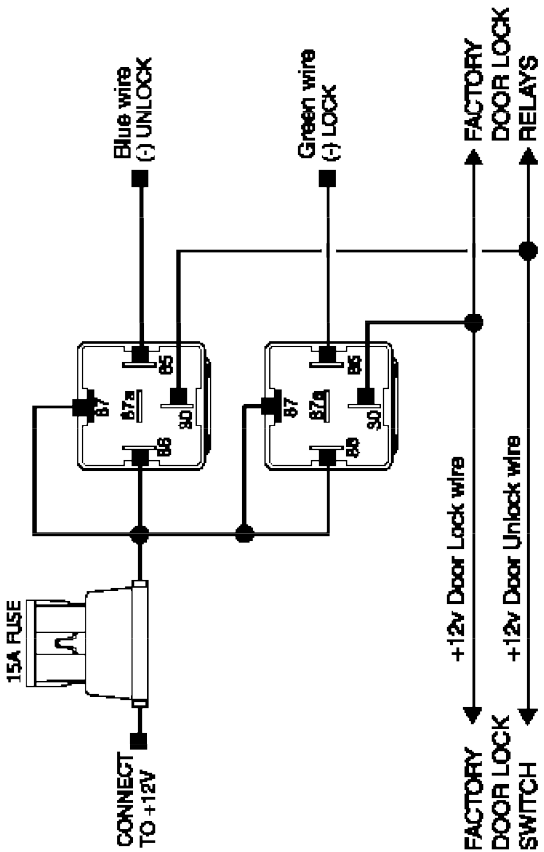




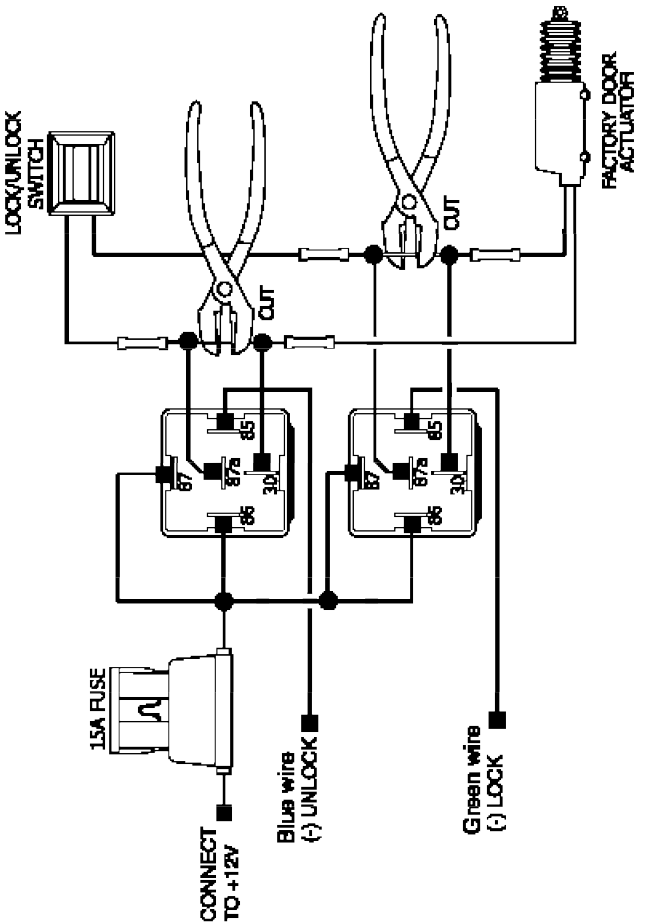
18. Door Lock Diagrams



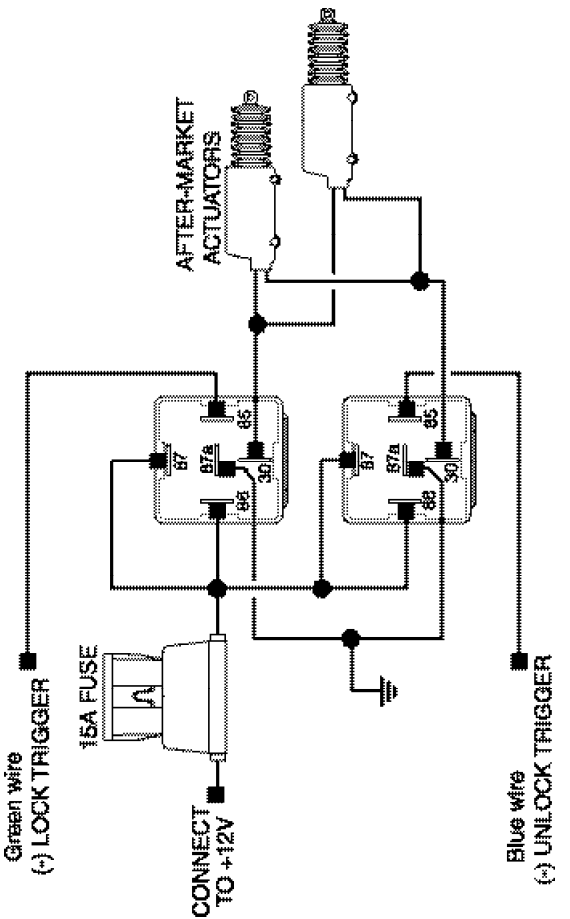
Negative Door Lock System



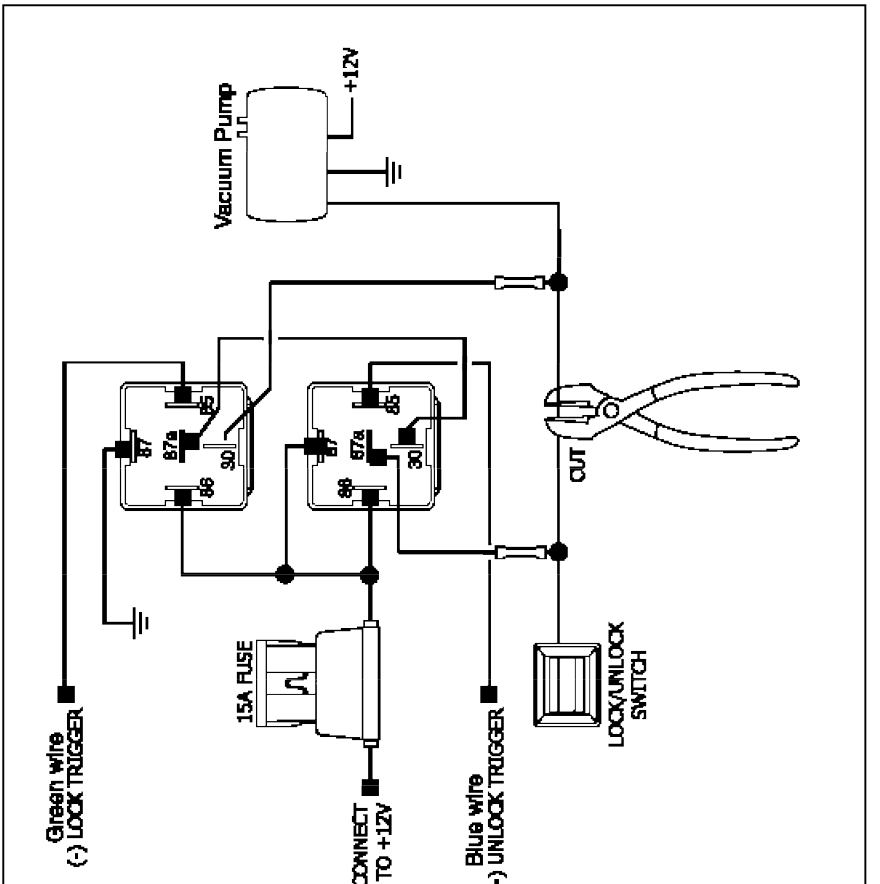
Positive Door Lock System



Reverse Polarity Door Lock System

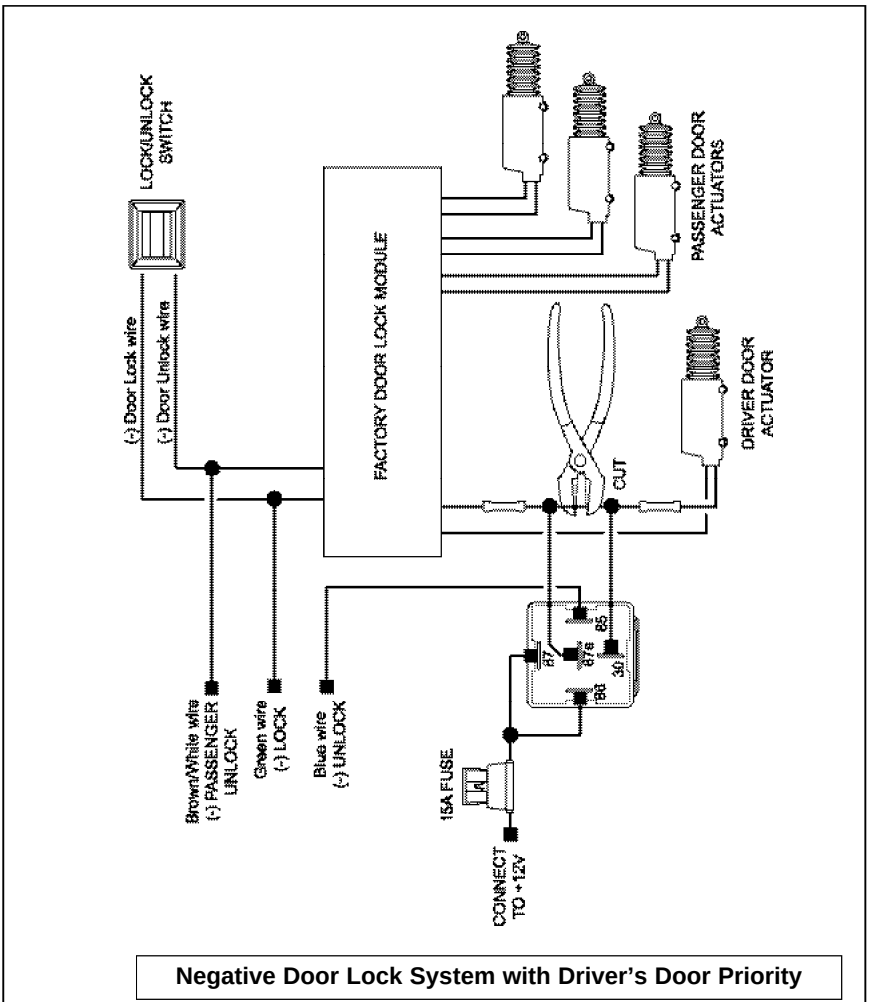


Actuator Diagram

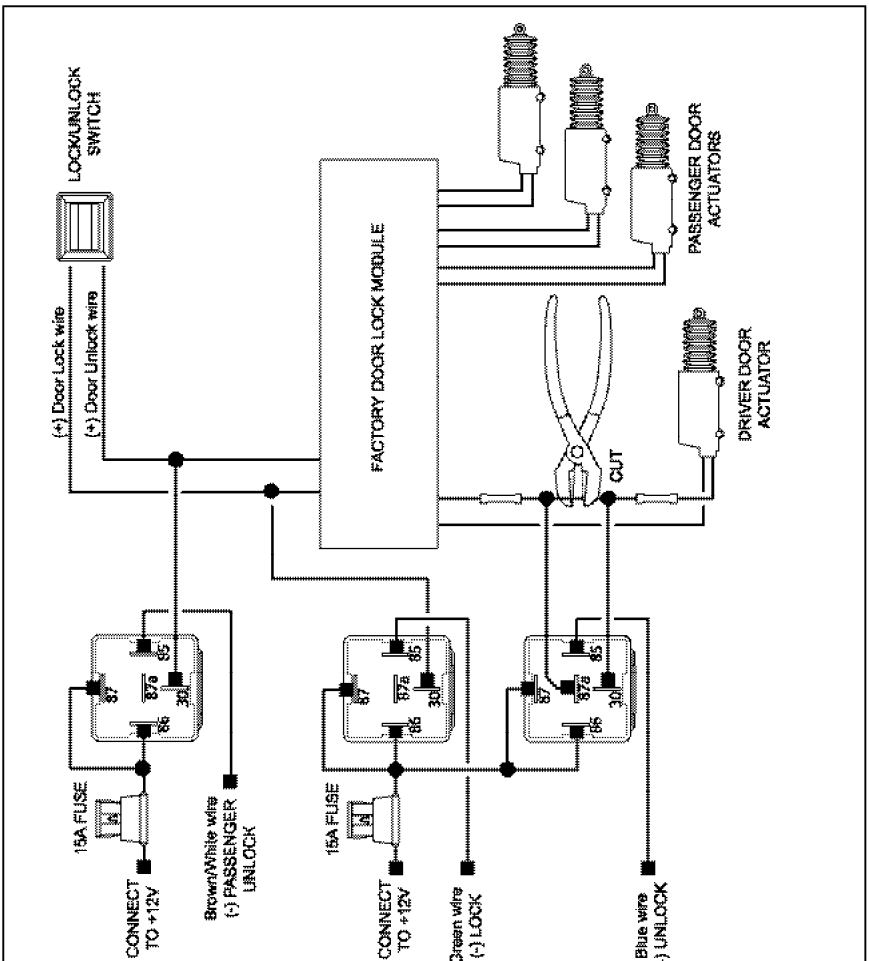


Vacuum Pump System

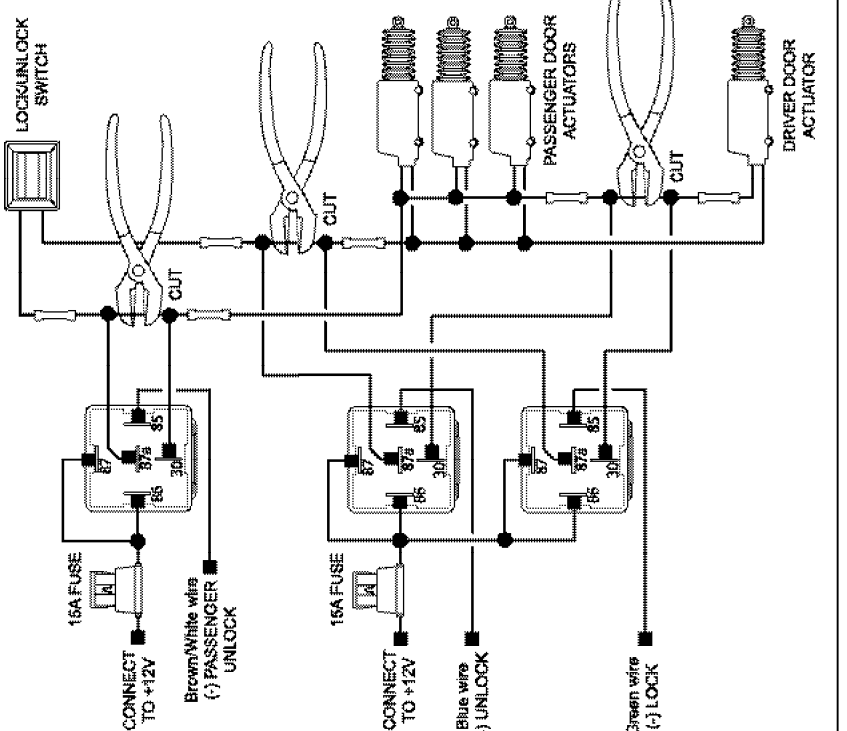
19. Driver's Door Priority Wiring Diagram



Negative Door Lock System with Driver's Door Priority

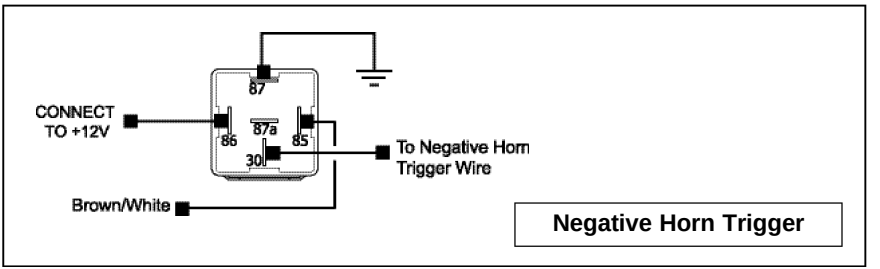


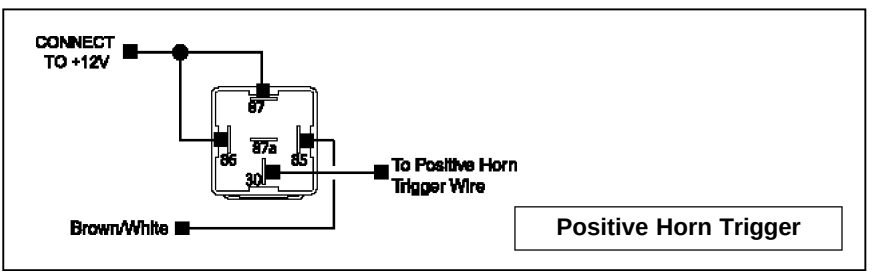
Positive Door Lock System with Driver's Door Priority



Reverse Polarity Door Lock System with Driver's Door Priority

20. Horn Honk Wiring Diagrams





21. Status Indicator (LED) Functions

LED STATUS	FUNCTION
Off	System is disarmed in Active mode.
Slow Flash	System is Armed.
Rapid Flash	Passive arming indication and auto rearm.
Rapid Flash (after disarm)	System was triggered.
On Solid	Valet mode.
On Solid (after arming)	On for 3 seconds, shock sensor trigger has been bypassed.
On Solid (when disarmed and not in Valet mode)	Door or hood/trunk is open.

22. Siren Chirp Status

CHIRPS	FUNCTION
1 Chirp	System Armed
2 Chirps	System Disarmed
3 Chirps	System Disarmed, but alarm triggered while away.
4 Chirps	10 seconds after arming indicates defective sensor or trigger zone.
5 Rapid Chirps	Warn away triggered.

23. Troubleshooting

Symptom	Probable Cause	Suggested Correction
Alarm doesn't Arm/Disarm.	Alarm in Valet Mode. Ignition input has voltage on it. Missing +12 or ground.	Take alarm out of Valet mode. Turn key off and verify yellow wire is connected to correct ignition wire. Check +12V and ground connections.
Alarm will not Passively Arm.	Passive arming is programmed Off. Wrong door switch polarity. Alarm in Valet mode.	Change arming mode to Passive arming. Change ignition input. Make sure alarm is not in Valet.
Alarm will not enter Remote programming mode.	Ignition was not left in the On position after turning it On & Off three times. Sequence not performed rapidly enough. Valet/Override switch is not plugged in or defective. Alarm is armed.	Repeat procedure quicker. Check connection on Valet button. Make sure the alarm is not in Valet or Armed.
Alarm chirps 4 times 10 seconds after the system is Armed.	Factory Dome light delay is longer than 10 seconds. Door switch or sensor is defective.	Set parameter for Ignore Dome Light Delay to On. Adjust or replace shock sensor.
Parking lights do not flash.	Wrong wire connected to the White wire. Polarity selection needs to be changed.	Correct the connection to the parking light wire. Move the jumper next to relay on board to correct polarity (+/-).
System Arms and Disarms, but doesn't chirp the siren.	Arming Chirps has been set to " Silent."	Set parameter for Arming Chirp to "Normal."

Symptom	Probable Cause	Suggested Correction
Dome light supervision does not activate upon Disarm.	Relay wired incorrectly.	*See Dome Light Supervision diagrams.*
Poor range with the remotes.	Antenna wire is grounded; Module is picking up interference from the vehicle's electrical system.	Make sure the antenna is not connected to ground. Relocate module or route antenna away from computer modules.
Vehicle starts when the alarm is Armed.	Wrong starter wire is cut.	Locate the proper starter wire and reconnect the other wire.
Vehicle will not start when the alarm is Disarmed.	Bad connection on Brown wire. Defective starter defeat relay.	Repair connection at starter wire. Replace module.
Keyless entry does not operate with remote.	Wrong door lock polarity. Wrong door lock wires are connected.	*See Door Lock Diagrams.* Verify the vehicle's door lock wires.
Ignition controlled door lock feature does not operate.	Ignition wire shows +12V at all times. Door is open. Door trigger input wrong polarity.	Connect to correct ignition wire. Close door. Change door trigger polarity.
Vehicle's horn honks when the alarm is Disarmed and door is opened.	Vehicle factory security system needs to be disarmed.	Locate the factory disarm wire and use the door Unlock pulse to disarm the factory alarm.
Alarm system intermittently works.	Bad power and/or ground connections.	Replace and secure power and ground connections.
Vehicle will not start and alarm does not function properly.	Vehicle battery is dead or drops below 7.5V when trying to start the vehicle.	Replace or charge battery.

24. Warranty Information

This Ungo Security System is warranted against defects in material and workmanship. The main unit and remote controls are covered by this limited lifetime warranty. This Limited Lifetime Warranty applies to Ungo Security systems that have been installed by an authorized Ungo Security dealer. This warranty is to the Original Purchaser ("Owner") and to the original vehicle in which it was installed into. This warranty is not transferable to any subsequent owner(s) of the product(s).

Warranty Program:

Main Unit	Limited Lifetime
Remote Controls	Limited Lifetime
Siren	One year from date of purchase
Shock Sensor	One year from date of purchase
LED	One year from date of purchase
Valet/Override Button	One year from date of purchase

The *Warranty* does not cover batteries or products deemed damage through alterations or installation. It also does not cover products mishandled, misused, neglected, abused, water damaged, or with removed/altered serial numbers.

PROOF OF PURCHASE WILL BE REQUIRED FOR WARRANTY SERVICE OF THIS PRODUCT.

This warranty does not cover the costs incurred for removal or reinstallation of the main unit and/or any damage to the vehicle or the vehicle's electrical system.

The sole responsibility of Clarion Corporation under this Warranty shall be limited to the repair or replacement of the product, at the sole discretion of Clarion Corporation.

If it becomes necessary to send the product or any defective part to Clarion Corporation, the product must be shipped in its original carton or equivalent carton, fully insured, with shipping charges prepaid. Clarion Corporation will not assume any responsibility for any loss or damage incurred in shipping.

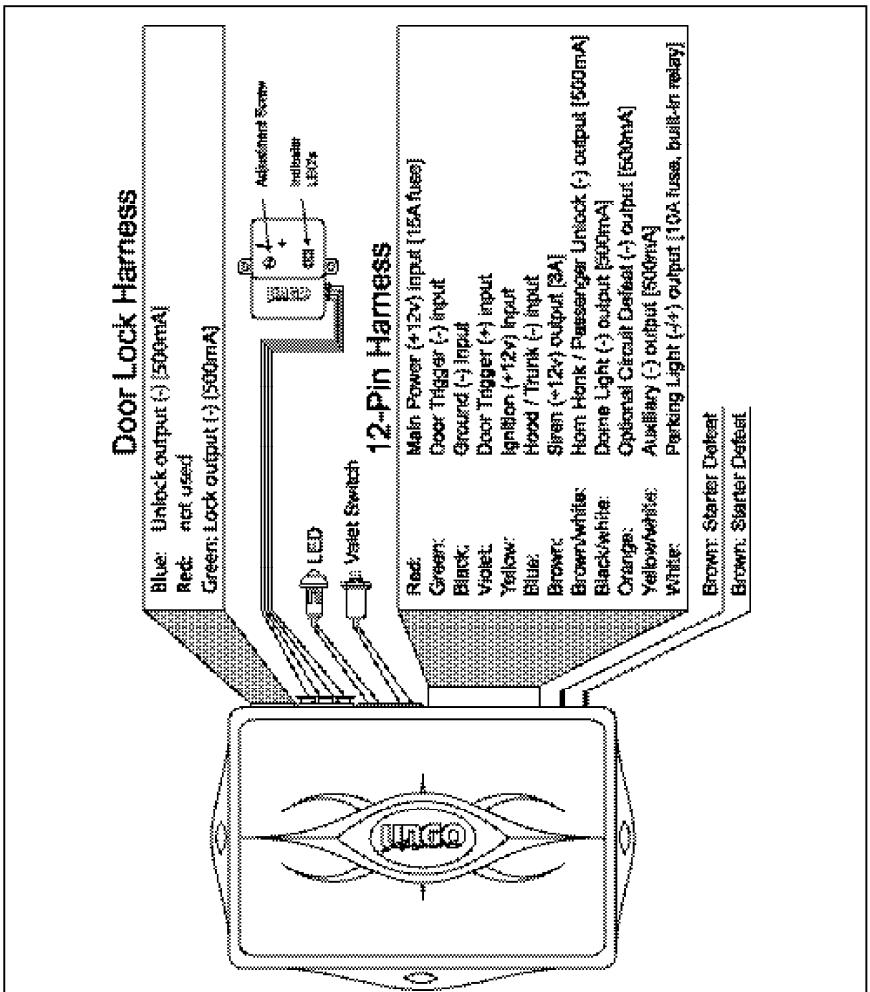
ALL IMPLIED WARRANTIES EXCEPT TO THE EXTENT PROHIBITED BY APPLICABLE LAW SHALL HAVE NO GREATER DURATION THAN THE WARRANTY PERIOD SET FORTH ABOVE. UNDER NO CIRCUMSTANCES SHALL CLARION CORPORATION BE LIABLE FOR ANY LOSS OR DAMAGE, DIRECT OR CONSEQUENTIAL, ARISING OUT OF THE USE OR INABILITY TO USE OF THE PRODUCT. BECAUSE SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS OR EXCLUSIONS OR LIMITATIONS OF INCIDENTIAL OR CONSEQUENTIAL DAMAGES, THE ABOVE LIMITATIONS OR EXCLUSIONS MAY NOT APPLY TO YOU.

THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE THE OTHER RIGHTS, WHICH VARY FROM STATE TO STATE.

Should you have any difficulties with the performance of this product during warranty, please call: 1-800-GO-CLARION or visit your local Ungo dealer. You may also contact the National Service Manager at the following address below for additional service help you may need.

Clarion Corporation of America
Attn: National Service Manager
661 W. Redondo Beach Blvd.
Gardena, Ca 90247

25. Wiring Diagram


Door Lock Harness
Blue: Unlock output (-) [500mA]
Red: not used
Green: Lock output (-) [500mA]
LED
Valet Switch
12-Pin Harness
Red: Main Power (+12v) input [15A fuse]
Green: Door Trigger (-) input
Black: Ground (-) input
Violet: Door Trigger (+) input
Yellow: Ignition (+12v) input
Blue: Hood / Trunk (-) input
Brown: Siren (+12v) output [3A]
Brown/White: Horn Honk / Passenger Unlock (-) output [500mA]
Black/White: Dome Light (-) output [500mA]
Orange: Optional Circuit Defeat (-) output [500mA]
Yellow/White: Auxiliary (-) output [500mA]
White: Parking Light (+/-) output [10A fuse, built-in relay]
Brown: Starter Defeat
Brown: Starter Defeat
Additional Screw
Indicator LEDs